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Mental health and education decisions

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HIGHLIGHTS

- We find a strong association between poor mental health and education/drop-out.
- Anhedonia and social dysfunction' is the most influential component.
- The mental health/drop-out association is not attributable to exam performance.
- A simple screening device is a useful predictor of mental health and vulnerability.

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ABSTRACT

Mental health problems have been rising internationally. The link between poor mental health and low educational outcomes is particularly interesting in the case of the UK which has a low international ranking both on measures of child wellbeing and the probability of early drop-out from the labour market and education. We study this issue using a large longitudinal study of a recent cohort of teenagers in England. We use the General Health Questionnaire to derive measures of poor mental health. We find a large negative association between being at risk of poor mental health and educational outcomes — where we consider examination results before leaving compulsory education and the probability of being 'not in education, employment or training' at a young age. Results are stronger for girls and also vary according to the different components of the mental health measure. It is important for practitioners and policy makers to pay attention to symptoms of poor mental health.

1. Introduction

Poor mental health in childhood is strongly linked to poor mental health later in life and has been shown to have a serious impact on life chances (Richard and Abbott, 2009). Mental health problems may impact on human capital accumulation by reducing both the amount of schooling and its productivity, which may in turn have lifelong consequences for employment, income and other outcomes (Eisenberg et al., 2009). Although the link between education and poor mental health has long been established, it has not often been examined in large-scale longitudinal studies. In this paper, we look at this issue in the context of a very recent and large scale study of adolescents in England. This is a particularly interesting context for analysing this issue because of a notably bad performance both on measures of child wellbeing and early drop-out from full-time education. For example, the UK made headlines for ranking 24th out of 29 European countries on a league table of child wellbeing (Bradshaw and Richardson, 2009). The 'long tail' in the educational distribution has long been known to be a feature of the UK labour force and remains the case for younger cohorts. A relatively high proportion of young people end up classified as 'not in education, employment or training' (NEET). The 2011 figures from the OECD suggest that the UK ranks 26th out of 33 OECD countries in this respect (OECD, 2013). Specifically, 9.5% of 15–19 year olds are not in education, employment or training. This is well above the EU average of 6.1%.

To what extent are poor mental health and low educational attainment/drop-out related? Clearly the association can operate in both directions. From a policy perspective, one would like to know the causal influence of poor mental health on these outcomes. This is notoriously difficult to establish and most research addresses the association rather than the causal impact. The latter can only be established from techniques that allow one to use 'exogenous variation' in mental health to predict its causal impact on later outcomes. Recent work by Ding et al. (2009) makes some progress in this direction by using genetic markers. However, in general, it is difficult to argue that indicators of mental health are exogenous because they are likely to be influenced by life events that are not

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fully measured in surveys. Nonetheless, it is still useful to know about the association between poor mental health and educational outcomes as this gives some information about the likely importance of mental health compared to other contributing factors (e.g. school or family characteristics). Moreover, it is interesting to see to what extent a simple screening device (like the 12 item General Health Questionnaire, used in this paper) is useful for predicting negative outcomes even after controlling for many observable characteristics. The General Health Questionnaire (GHQ) is a screening instrument designed for use in general populations to detect the presence of symptoms of mental illness and depression in particular (Goldberg, 1972). It has been extensively used in the psychological literature and is regarded as one of most reliable indicators of psychological distress or disutility (Argyle, 1989). The 12 item version of the GHQ (GHQ-12) is based on the questions that provide the best discrimination among the original criterion groups.

It is rare to have data for such a recent cohort (aged 14/15 in 2004) and this is important because adolescent emotional problems and conduct disorder are known to have become more prevalent in recent decades (Collishaw et al., 2004). For Britain, there have been four comparable national surveys of 15–16 year olds, beginning in 1974. The numbers with mental health problems doubled between 1974 and 1999 but were stable between then and 2004 (Layard and Dunn, 2009). However, a large number of mental health problems are thought to go unrecognised and untreated. According to Layard and Clark (2014) as many as one in ten children (aged 5–16) would be diagnosed as suffering from a serious mental health problem, and although treatments are available, only a quarter of these children are being helped by specialist mental health services.

In the light of a high level of undiagnosed problems, a contribution of this paper is to see how well a simple screening device does in predicting poor educational outcomes, even after including a rich set of individual, family and school controls. We look at important educational outcomes: results in the 'high stakes' exam before the end of compulsory full-time education (GCSE) at the age of 16 and the probability of dropping out of the labour force at an early age. We find strong patterns of association, particularly for girls. This is interesting for practitioners because it shows that such screening is potentially useful in identifying people at risk of both poor mental health and subsequent low educational achievement (beyond indicators of family background and prior attainment).

We not only look at the impact of an overall measure of mental health, but also look at how the different components of the GHQ measure relate to educational attainment and the probability of moving into inactivity at an early age. We discover that distinctive components are not equally important for predicting poor outcomes. This is relevant because it shows that some symptoms of poor mental health are stronger 'flags' than others for important educational outcomes.

Finally, we can say something (in an accounting sense) about the potential interplay between poor mental health and intermediary mechanisms using available data in our survey. For example, poor mental health may impact on later outcomes by intermediary choices such as insufficient investment in effort (e.g. playing truant) and self-medication (e.g. substance abuse). We can see whether including proxies for such behaviour help to 'wipe out' the association between mental health and educational outcomes. This hints at the potential importance of such mechanisms although we can't say anything about causality in this study.

The remainder of the paper is structured as follow. In Section 2, we give a brief overview of the literature on the association between mental health disorders and educational attainment. In Section 3, we describe our data before describing our conceptual framework in Section 4. In Section 5, we explain our results and we conclude in Section 6.

2. A brief literature review

There is a huge literature on the impact of mental illness on a range of outcomes. As Layard and Clark (2014) put it: 'mental illness causes more of the suffering in our society than physical illness does, or than poverty or unemployment do'. In addition to the wellbeing loss involved, there are a whole range of economic costs — as classified by Layard and Clark (2014): 'fewer in work, and more on welfare', 'more crime', and 'more physical healthcare'. In this brief overview, we focus on the relationship between mental health and the outcomes of interest in this paper: education and the probability of dropping out of the labour force at an early age. Of course, lower educational outcomes and dropping out of the labour market have important consequences later on. Many papers show a strong causal relationship between educational attainment and labour market outcomes.[1] Also, there is evidence that youth unemployment produces a 'scarring effect' in terms of lower wages over the lifecycle (Gregg and Tominey, 2005).

The relationship between mental health and education has been explored in both the psychological literature and the economic literature. There are many small-scale studies in the psychological literature looking at the relationship between indicators of mental health and educational outcomes. Kessler et al. (1995) was the first study to examine the educational consequences of mental health disorders in a national sample for the US. The paper finds strong associations between child–adolescent mood, anxiety, substance use and conduct disorders with termination of schooling prior to each of three educational milestones (high school graduation, college entry among school graduates and completion of four years of college among college entrants). Within the psychological literature, longitudinal studies are rare, although there are some exceptions. For example, Johnson et al. (1999) find that low family socioeconomic status is associated with a higher risk of offspring anxiety, depressive, disruptive, and personality disorders. In turn, these disorders are associated with an increased risk of poor educational attainment. Smith and Smith (2010) use retrospective health questions in the 2007 Panel Survey of Income Dynamics wave to show that depression, substance abuse, and other psychological problems experienced in childhood significantly reduce the number of weeks worked a year and the level of earnings in adulthood, even after they adjust for fourteen childhood physical illnesses and control for within-sibling differences. Although it is common in this literature to find a relationship between mental health disorders and educational outcomes, the direction and strength of the relationship vary by the type of disorder. For example, Miech et al. (1999) did not find an association between anxiety/depression and educational attainment, although they did find a negative association between conduct disorder/attention deficit disorder and educational attainment. Breslau et al. (2008) consider the association between a broad range of mental health disorders and educational attainment. They only find a consistent relationship between disorders that involve 'externalising behaviour' and educational outcomes at each stage and not with disorders only associated with 'internalising behaviour'.

The economic literature has only recently begun to consider the relationship between mental health and educational outcomes. A strength of the contribution made by economists is that typically studies are longitudinal and have big sample sizes. Currie and Stabile (2006) and Fletcher and Wolfe (2008) both focus on the relationship between Attention Deficit Hyperactivity Disorder (ADHD) and subsequent educational attainment and find evidence of a strong negative association. Using administrative Canadian data on siblings, Currie et al. (2010), shows that early mental health problems (ADHD and conduct problems) have additional predictive power even conditional on future health and health at birth.[2] Breining (2014) shows that there are important effects on children's educational outcomes if they have a sibling with ADHD (thus showing the importance of spillovers).

[1] Card (1999) produces a good review of the evidence up to this point — though many other papers have been published since. Oreopoulos and Salvanes (2011) review evidence that educational attainment has important consequences from a range of non-pecuniary outcomes.

[2] In a very recent work Currie et al. (2014) show that an increase in medication use (in Quebec) was not associated with any improvement in the emotional functioning or academic outcomes among children with ADHD.